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photodetector;

said detection optical element having its optical plane arranged orthogonally relative to the detection light beam.

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3. A multibeam scanning optical apparatus according to claim 2, wherein

said detection optical element comprises an anamorphic lens.

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4. A multibeam scanning optical apparatus according to claim 2, wherein

said detection optical element is made of a plastic material.

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5. A multibeam scanning optical apparatus according to claim 2, wherein

said scanning optical system comprises a refraction optical element and a diffraction optical element.

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6. A multibeam scanning optical apparatus according to claim 5, wherein

said refraction optical element and said diffraction optical element are made of a plastic material.

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7. A multibeam scanning optical apparatus
according to claim 6, wherein
said detection optical element and said refraction
optical element are integrally formed by using a
5 plastic material.

8. A multibeam scanning optical apparatus
according to claim 2, further comprising:
an incident optical system for leading a plurality
10 of light beams emitted from said light source to said
optical deflector.

9. A multibeam scanning optical apparatus
according to claim 8, wherein
15 said incident optical system comprises a first
lens for collimating each of said plurality of light
beams emitted from said light source and a second lens
for focussing each of said plurality of collimated
light beams on the deflection plane of the optical
20 deflector as a linear image extending in the main-
scanning direction.

10. A multibeam scanning optical apparatus
according to claim 9, wherein
25 said detection optical element and said second
lens are integrally formed by using a plastic material.

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11. A multibeam scanning optical apparatus
according to claim 1, wherein

5 said photodetector detects part of each of a
plurality of light beams deflected by said optical
deflector and controls the timing of the start of
scanning of each of said plurality of light beams.

12. A multibeam scanning optical apparatus
comprising:

10 a light source having a plurality of light beam
emitting sections;

a light deflector for deflecting a plurality of
light beams emitted respectively from said plurality of
light beam emitting sections of said light source;

15 a scanning optical system for focussing said
plurality of light beams deflected by said light
deflector on a surface to be scanned;

a photodetector for controlling the timing of the
start of scanning of said plurality of light beams by
20 detecting a part of at least one of said plurality of
light beams deflected by said light deflector as
detection light beam; and

a detection optical element for converging said
detection light beam and leading it to said
25 photodetector;

said detection optical element having its optical
plane arranged orthogonally relative to said detection

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light beam.

13. A multibeam scanning optical apparatus
according to claim 12, wherein

5 said detection optical element comprises an
anamorphic lens.

14. A multibeam scanning optical apparatus
according to claim 12, wherein

10 said detection optical element is made of a
plastic material.

15. A multibeam scanning optical apparatus
according to claim 12, wherein

15 said scanning optical system comprises a
refraction optical element and a diffraction optical
element.

16. A multibeam scanning optical apparatus
20 according to claim 15, wherein

 said refraction optical element and said
diffraction optical element are made of a plastic
material.

25 17. A multibeam scanning optical apparatus
according to claim 16, wherein

 said detection optical element and said refraction

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optical element are integrally formed by using a plastic material.

18. A multibeam scanning optical apparatus
5 according to claim 12, further comprising:

an incident optical system for leading a plurality of light beams emitted from said light source to said optical deflector.

10 19. A color image forming apparatus comprising:

a plurality of scanning optical apparatus, each having a light source, a light deflector for deflecting a light beam emitted from said source, a scanning optical system for focussing the light beam deflected by said light deflector on a surface to be scanned and a photodetector for controlling the timing of the start of scanning of said light beam by detecting a part of said light beam deflected by said light deflector as detection light beam, said photodetector and the center of the scanning width in the main-scanning direction on the surface to be scanned being held optically equivalent; and

25 a plurality of image carriers arranged
respectively on the surfaces to be scanned of said
scanning optical apparatus for forming images with
respective different colors.

20. A color image forming apparatus according to claim 19, wherein

each of said scanning optical apparatus further comprises:

5 a detection optical element for converging said detection light beam and leading it to said photodetector;

said detection optical element having its optical plane arranged orthogonally relative to the detection
10 light beam.

21. A color image forming apparatus according to claim 20, wherein

said detection optical element of each of said
15 scanning optical apparatus comprises an anamorphic lens.

22. A color image forming apparatus according to claim 20, wherein

20 said detection optical element of each of said scanning optical apparatus is made of a plastic material.

23. A color image forming apparatus according to
25 claim 20, wherein

said scanning optical system of each of said scanning optical apparatus comprises a refraction

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optical element and a diffraction optical element.

24. A color image forming apparatus according to claim 23, wherein

5 said refraction optical element and said diffraction optical element of each of said scanning optical apparatus are made of a plastic material.

25. A color image forming apparatus according to claim 24, wherein

10 said detection optical element and said refraction optical element of each of said scanning optical apparatus are integrally formed by using a plastic material.

15 26. A color image forming apparatus according to claim 20, wherein

each of said scanning optical apparatus further comprises:

20 an incident optical system for leading the light beam emitted from said light source to said optical deflector.

27. A color image forming apparatus according to claim 26, wherein

25 said incident optical system of each of said scanning optical apparatus comprises a first lens for

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collimating the light beam emitted from said light source and a second lens for focussing the collimated light beam on the deflection plane of the optical deflector as a linear image extending in the main-scanning direction.

28. A color image forming apparatus according to claim 27, wherein

said detection optical element and said second lens of each of said scanning optical apparatus are integrally formed by using a plastic material.

29. A color image forming apparatus according to claim 19, wherein

said light source of each of said scanning optical apparatus comprises a plurality of light emitting sections for emitting a plurality of light beams modulated independently relative to each other.

30. A color image forming apparatus comprising:
a plurality of scanning optical apparatus, each having a light source, a light deflector for deflecting a light beam emitted from said source, a scanning optical system for focussing the light beam deflected by said light deflector on a surface to be scanned, a photodetector for controlling the timing of the start of scanning of said light beam by detecting a part of

34. A color image for claim 33, wherein said refraction optical diffraction optical element optical apparatus are made

35. A color image for claim 34, wherein said detection optical optical element of each of apparatus are integrally fo material.

36. A color image for claim 30, wherein each of said scanning comprises:
an incident optical sy beam emitted from said ligh deflector.

37. A color image for claim 36, wherein said incident optical scanning optical apparatus

34. A color image forming apparatus according to claim 33, wherein

5 said refraction optical element and said
 diffraction optical element of each of said scanning
 optical apparatus are made of a plastic material.

35. A color image forming apparatus according to
10 claim 34, wherein

said detection optical element and said refraction optical element of each of said scanning optical apparatus are integrally formed by using a plastic material.

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36. A color image forming apparatus according to claim 30, wherein

each of said scanning optical apparatus further comprises:

20 an incident optical system for leading the light
beam emitted from said light source to said optical
deflector.

37. A color image forming apparatus according to
25 claim 36, wherein

said incident optical system of each of said
scanning optical apparatus comprises a first lens for

collimating the light beam emitted from said light
source and a second lens for focussing the collimated
light beam on the deflection plane of the optical
deflector as a linear image extending in the main-
scanning direction.

38. A color image forming apparatus according to
claim 37, wherein

said detection optical element and said second
lens of each of said scanning optical apparatus are
integrally formed by using a plastic material.

39. A color image forming apparatus according to
claim 30, wherein

said light source of each of said scanning optical
apparatus comprises a plurality of light emitting
sections for emitting a plurality of light beams
modulated independently relative to each other.

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